AMENDMENTS TO THE CLAIMS

This following listing of claims replaces all previous versions of the claims in this application.

Listing of Claims

1. (**Currently amended**) A reaction mixture for primer-based amplification and detection of a target nucleic acid ~~sequence~~, the reaction mixture comprising

each conventional nucleotide dATP, dCTP, dGTP, and dTTP in combination with dUTP as a replacement for a portion of the dTTP, wherein said dUTP replaces from about 10 to about 50% of said dTTP in said reaction mixture; and at least one of a fluorescent probe, beacon or intercalating dye;-

~~at least one primer, wherein said primer has at least one uracil base incorporated therein;~~

wherein the inclusion of dUTP reduces the formation of primer aggregates during the amplification reaction in comparison with an amplification reaction employing only conventional nucleotides.

2. (**Currently amended**) The reaction mixture according to claim 1 or 31, wherein the dUTP replaces from about 10 to about 30% of the dTTP in said reaction mixture.

3. (**Currently amended**) The reaction mixture according to claim 1 or 31, wherein the dUTP replaces from about 20 to about 40% of the dTTP in said reaction mixture.

4. (**Currently amended**) The reaction mixture according to claim 1 or 31, further comprising at least one additional unconventional nucleotide, wherein the combined concentration of said dUTP and said at least one unconventional nucleotide does not exceed 75% of any one conventional nucleotide in said reaction mixture.

5. (**Currently amended**) The reaction mixture according to claim 1 or 31, wherein said reaction mixture comprises a primer pair and wherein each member of the primer pair has at least one or more uracil bases incorporated therein.

6. (**Original**) The reaction mixture according to claim 5, wherein each member of the primer pair has all of its thymidine bases replaced with uracil bases.

7. (**Currently amended**) The reaction mixture according to claim 1 or 31, wherein the dUTP does not exceed a final amplification reaction concentration of about 300 µM.

8. (**Currently amended**) The reaction mixture according to claim 1 or 31, wherein the dUTP does not exceed a final amplification reaction concentration of about 100 µM.

9. (**Currently amended**) The reaction mixture according to claim 1 or 31, further comprising at least one polymerase enzyme.

10. (**Currently amended**) The reaction mixture according to claim 1 or 31, further comprising a buffer system.

11. (**Currently amended**) A method for reducing primer aggregation during amplification and detection of a target nucleic acid, the method comprising:

combining a target nucleic acid with a reaction mixture comprising each conventional nucleotide dATP, dCTP, dGTP and dTTP in combination with dUTP as a replacement for a portion of the dTTP ~~according to any one of claims 1 to 10~~; wherein said dUTP replaces from about 10 to about 50% of said dTTP in said reaction mixture; ~~and~~

amplifying the target nucleic acid to produce amplicons; and

detecting the amplicons so produced;

wherein ~~such that~~ the level of primer aggregate formed during the amplification step ~~reaction~~ is reduced as compared to amplifying the target nucleic acid using a dNTP mix having only conventional nucleotides, and wherein said nucleic acid is DNA.

12. (**Currently amended**) An improved method for detecting and/or quantifying ~~amplifying~~ a target nucleic acid in a sample ~~sequence~~, ~~the method~~ comprising:

combining a target nucleic acid ~~sample~~ with a reaction mixture comprising each conventional nucleotide dATP, dCTP, dGTP and dTTP in combination with dUTP as a replacement for a portion of the dTTP ~~according to any one of claims 1 to 10~~; wherein said dUTP replaces from about 10 to about 50% of said dTTP in said reaction mixture; ~~and~~

amplifying the target nucleic acid ~~in said sample~~ to produce amplicons;

and detecting the amplicons so produced;

wherein ~~such that~~ the level of primer aggregate formed during the amplification step ~~reaction~~ is reduced as compared to amplifying the target nucleic acid using a dNTP mix having only conventional nucleotides, ~~wherein said method lacks an enzyme degradation step employing UNG~~ and wherein said nucleic acid is DNA.

13. (**Previously presented**) The method according to claim 11, wherein the reaction mixture further comprises sorbitol or mannitol.

14. (**Original**) The method according to claim 13, wherein the target nucleic acid has secondary structure.

15-18. (**Canceled**)

19. (**Previously presented**) The method according to claim 13, wherein the reaction mixture comprises 100 to 500 mM sorbitol or 100 to 300 mM mannitol.

20. (**Currently amended**) The reaction mixture according to claim 1 or 31, wherein the reaction mixture further comprises sorbitol or mannitol.

21. (**Previously presented**) The reaction mixture according to claim 20, wherein the reaction mixture comprises 100 to 500 mM sorbitol or 100 to 300 mM mannitol.

22. (**Previously presented**) The reaction mixture according to claim 12, wherein the reaction mixture further comprises sorbitol or mannitol.

23. (**Previously presented**) The reaction mixture according to claim 22, wherein the reaction mixture comprises 100 to 500 mM sorbitol or 100 to 300 mM mannitol.

24. (**New**) The method according to claim 11 or 12, wherein the dUTP replaces from about 10 to about 30% of the dTTP in said reaction mixture.

25. (**New**) The method according to claim 11 or 12, wherein the dUTP replaces from about 20 to about 40% of the dTTP in said reaction mixture.

26. (**New**) The method according to claim 11 or 12, further comprising at least one additional unconventional nucleotide, wherein the combined concentration of said dUTP and said at least one unconventional nucleotide does not exceed 75% of any one conventional nucleotide in said reaction mixture.

27. (**New**) The method according to claim 11 or 12, wherein the dUTP does not exceed a final amplification reaction concentration of about 300 µM.

28. (**New**) The method according to claim 11 or 12, wherein the dUTP does not exceed a final amplification reaction concentration of about 100 µM.

29. (**New**) The method according to claim 11 or 12, further comprising at least one polymerase enzyme.

30. (**New**) The method according to claim 11 or 12, further comprising a buffer system.

31. (**New**) An improved reaction mixture for the detection and/or quantification of a target nucleic acid in a sample, the reaction mixture comprising

each conventional nucleotide dATP, dCTP, dGTP, and dTTP in combination with dUTP as a replacement for a portion of the dTTP, wherein said dUTP replaces from about 10 to about 50% of said dTTP in said reaction mixture; and at least one of a fluorescent probe, beacon or intercalating dye;-

wherein the inclusion of dUTP reduces the formation of primer aggregates during the amplification reaction in comparison with an amplification reaction employing only conventional nucleotides.